

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY



PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

YOU ME PATENT & LAW FIRM

Teheran Bldg. 825-33 Yoksam-dong Kangnam-ku Seoul 135-080 Republic of Korea

Date of mailing
(day/month/year) 30 JUNE 2004 (30.06.2004)

Applicant's or agent's file reference
OPP031879KR

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/KR2004/000747

International filing date (day/month/year)

31 MARCH 2004 (31.03.2004)

Priority date(day/month/year)

09 APRIL 2003 (09.04.2003)

International Patent Classification (IPC) or both national classification and IPC

IPC7 C09D 183/04

Applicant

LG CHEM, LTD. et al

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.
For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/KR



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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/KR2004/000747

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- ☐ a sequence listing
☐ table(s) related to the sequence listing

b. format of material

- ☐ in written format
☐ in computer readable form

c. time of filing/furnishing

- ☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

**WRITTEN OPINION OF THE
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PCT/KR2004/000747

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | | |
|-------------------------------|--------|------|-----|
| Novelty (N) | Claims | 1-18 | YES |
| | Claims | | NO |
| Inventive step (IS) | Claims | | YES |
| | Claims | 1-18 | NO |
| Industrial applicability (IA) | Claims | 1-18 | YES |
| | Claims | | NO |

2. Citations and explanations :

Reference is made to the following documents:

D1) JP 2001-279163 A

D2) JP 2000-109697 A

D3) JP 2002-038089 A

I-Novelty:

Claim 1 of the present invention is concerned with coating composition for insulation film comprising organic polysiloxane precursor whose weight average molecular weight is 500-30,000, organic solvent and water. Although D1-D3 cited in the international search report disclose coating composition for semiconductor element, certain component is slightly different from that of claim 1 of the present invention. Accordingly, the subject matter of claim 1 seems to be novel.(PCT Article 33(2)). Claims 2-9 also comply with PCT Article 33(2) as they are dependent claims. Claim 10 concerning a method for preparation of low-permittivity insulation film must be novel owing to employment of novel composition for insulation film. Claims 11-16 also comply with PCT Article 33(2) as they are dependent claims. As claims 17-18 relate to low-permittivity insulation film for semiconductor element manufactured thereby, novelty of these claims is also out of question.

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PCT/KR2004/000747

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of :

V.

II-Inventive step:

1) Concerning claim 1 (Independent claim)

Even if coating composition for insulation film is slightly different from the coating fluid for siliceous coating film described in D1, it is very easily modified from the reference D1 by the skilled person in the art. Therefore, claim 1 does not meet the criteria set out in PCT Article 33(3).

2) Concerning claims 2 to 9 (Dependent claims)

Claims 2 to 9 disclose specific components of coating composition for insulation film. Meanwhile, D1-D3 disclose potential components of low-permittivity siliceous coating film composition limited in these claims. In the case of the combination of D1-D3, claims 2 to 9 seem to be obvious for the skilled person in the art.

3) Concerning claim 10 to 16 (Independent claim and dependent claims)

Although claims 10 to 16 relate to a method for preparation of low-permittivity insulation film, process for manufacturing low-permittivity insulation film is well known by the skilled person in the art. It appears obvious for the skilled person in the art to prepare low-permittivity insulation film employing the above coating composition lack of inventive step.

4) Concerning claims 17 to 18 (Independent claims)

Claims 17 and 18 refer to low-permittivity insulation film for semiconductor element manufactured by method of claim 10 and semiconductor element containing the low-permittivity insulation film, respectively. It also appears obvious for the skilled person in the art to obtain low-permittivity insulation film and semiconductor element employing the above method lack of inventive step.

Claims 1 to 18 meet the criteria set out in PCT Article 33(4), because they are directed to insulation coating film composition, method for preparation of insulation film and insulation film manufactured thereby.